

*Presenting*

# ADRE<sup>®</sup> for Windows<sup>™</sup>

**W**e are pleased to introduce two additions to the ADRE<sup>®</sup> (Automated Diagnostics for Rotating Equipment) family of diagnostic products, ADRE<sup>®</sup> for Windows<sup>™</sup> Software and the Data Acquisition Interface Unit (DAIU). Users of diagnostic products are very sophisticated and demand more power and flexibility. In addition to maintaining all the ADRE<sup>®</sup> features that help solve machinery problems, these two new products also provide you with many advanced capabilities.

Through the experience and knowledge of Bently Rotor Dynamics Research Corporation, our Machinery Diagnostic Services engineers, and most importantly, our customers, a new standard has been set. We have incorporated over 95% of the features requested by ADRE<sup>®</sup> 3 users. This new generation of portable equipment is designed for full-function vibration diagnostics of rotating machinery.

The DAIU is an eight-channel processing unit that interfaces directly to a computer. Two DAIUs may be connected together for up to 16 channels of simultaneous data acquisition. For machine trains with more than one shaft speed, two Keyphasor<sup>®</sup> inputs are provided. Data is captured and downloaded directly into the computer's memory as it is taken. This data can then be stored on the computer's hard drive or to a floppy disk.

The DAIU can be powered by AC or will operate on its internal battery up to four hours on a single charge. The AC power supply operates on 90/260 VAC and 47/63 Hz, automatically accommodating the power requirements found in your area. For a fully "portable system," the DAIU interfaces directly into the expansion port of the COMPAQ LITE family of notebook computers. The DAIU can be interfaced

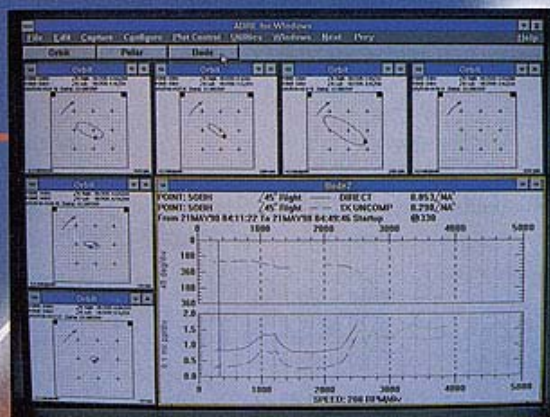
with most 386/486-based desktop or portable computers, if they have one available 16-bit ISA slot. This is accomplished through a typical "half length" interface card available from Bently Nevada.

#### Improved data resolution

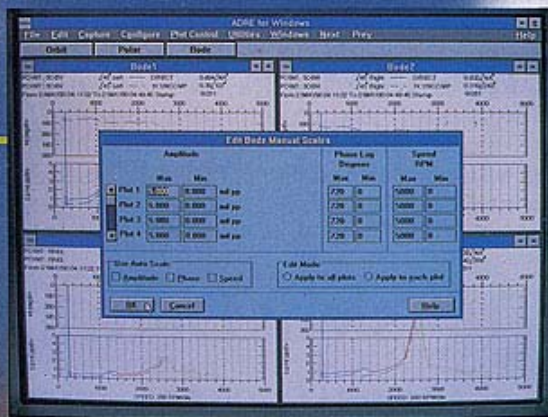
Data resolution is greatly improved through advanced digital signal processing techniques and 12-bit accuracy. Taking up to 128 samples per shaft revolution, the system captures overall (direct), 1X, 2X, and NX filtered vectors (amplitude and phase) simultaneously. NX vectors can be integer values from 1 to 15 or subsynchronous values between 0.2 and 1.0. Asynchronous spectral capabilities have been greatly enhanced; you can select from 50, 100, 200, or 400 lines, which greatly increases the frequency resolution out to 10 kHz. A zoom of



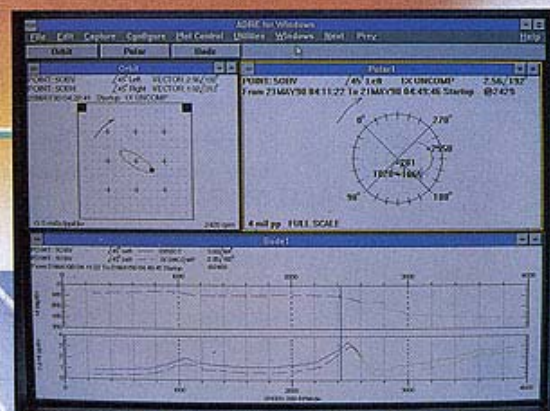




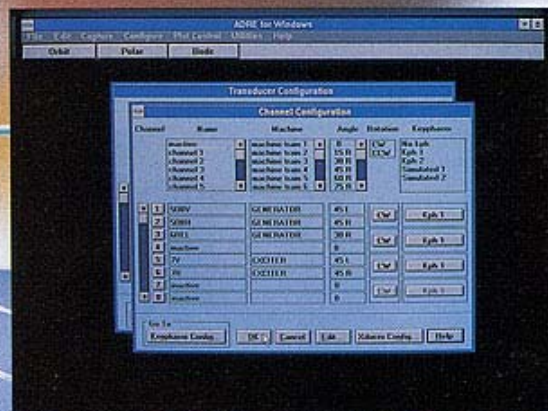
Bode plot with "Plus Orbits"



Bode plots with manual scaling



Multiple plots (Orbit, Polar & Bode)



Channel/Transducer Configuration Dialogue Box

3200 lines is available for two channels simultaneously.

Data is captured based on elapsed time ( $\Delta$ Time), changes in machine speed ( $\Delta$ rpm), or both. Manual sampling is also available. Sampling can be initiated or "triggered" in a number of ways, such as a change in amplitude (1X, 2X, NX, direct, dc gap/process variable), phase (1X, 2X, NX), speed, or time. Sampling may be initiated at a pre-programmed time and date or by an external contact device, such as a relay. Process variables with 1 to 10 Vdc, 1 to 5 Vdc, or 4 to 20 mA can be input directly to the DAUI.

Operating on the Microsoft® Windows™ platform provides a friendly and powerful operating environment. This graphical interface allows you to take advantage of "Windows" capabilities. Data can be displayed in familiar formats, such as Bode, Polar, Orbit, Shaft

Centerline and Cascade plots. In addition to enhancements, there are a number of new display formats available, such as "Plus Orbits," "Multiple Plots," and "Current Values."

A single plot can be displayed in a full screen format or many plots can be displayed simultaneously, each within its own window. Re-scaling can be done while the plots remain on the screen. To further enhance data correlation, an active cursor is available on most plot types, enabling you to read data values easily and accurately.

#### Real-time display

Real-time display capability presents data on the computer screen as it is being captured! Database ranges can be defined to appear in different colors to help highlight certain machine behaviors. Hardcopy output capabilities are also greatly enhanced. Printer drivers,

available within the Windows™ environment, allow printing on most output devices, including those that support color! A variety of software utilities are available which allow addition, subtraction, multiplication and division of vector data.

#### Upward compatibility

ADRE® for Windows™ will read archived ADRE®3 data files and can take data directly from the 108 Data Acquisition Instrument (DAI) through use of a software utility. While ADRE 3 products will continue to be available, ADRE® for Windows™ and the DAUI represent a comprehensive solution to your rotating machinery problems at a lower price.

Contact your nearest Bently Nevada representative for more information.

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